

REMARKS/ARGUMENTS

In this Amendment, Applicants have amended independent apparatus claims 20, 30, and 38 to more-particularly claim Applicants' invention. As now more-particularly claimed, the first layer includes pores disposed within the first layer.

As explained in Applicants' specification at least at para. 0018, with respect to Figure 2, the relatively hard, outer second layer 16 provides the actual erosion protection of the wear protection coating 13. The second layer 16 protects the blade pan 11 from erosion from fine particles. The first layer 15 beneath the outer second layer 16 has damping properties so that it can absorb energy from the impact of larger particles on the wear protection coating 13. In the case of an impact from large particles, fine, round and microscopically small pores 17 within the first layer 15 of the wear protection coating 13 prevent a crack of the relatively hard outer layer 16 from being able to continue into the to-be-protected component, namely the to-be-protected blade pan 11. Thus, pores 17 are disposed with the first layer to prevent a crack in the outer layer from continuing further into the component.

In the Office Action, the Examiner has rejected independent claims 20, 30, and 38 as being anticipated by Schaefer, Bruce, and Gibbs. Applicants respectfully submit that Schaefer, Bruce, and Gibbs do not disclose pores in any interpreted first layer of a wear protection coating. In fact, both Schaefer and Gibbs were cited in the PCT Search Report for this National Phase patent application, and consequently in an Information Disclosure Statement filed in this application by Applicants, and were not considered relevant to claims in the PCT patent application that claimed that the first layer was porous (PCT claim 3). A copy of the PCT Search Report has also been filed in this patent application for the Examiner's reference. Applicants respectfully acknowledge that the Examiner is not bound by the results of the examination of the claims of the corresponding PCT application, however, Applicants do respectfully submit that this provides a further point of reference for the Examiner when considering the references.

As discussed above, Applicants respectfully submit that neither Schaeffer, Bruce, nor Gibbs discloses pores disposed within the first layer. In the Office Action, the Examiner basically argues that Schaeffer, Bruce, and Gibbs can be “expected” to have a porous first layer because the first layer is applied onto the component in a method of fabrication that is “identical to that of the instant application”. (emphasis added). However, Applicants respectfully submit that it is not a PVD method itself (as argued by the Examiner with respect to Bruce and Gibbs), nor a plasma spray (as argued by the Examiner with respect to Schaeffer), that provides for pores in the first layer in Applicants’ invention. Rather, as specifically disclosed in Applicants’ specification at least paras. 0021-0022, in a PVD method of applying the first layer, shortly before the impact of the targeted matter vapor beam, additives are incorporated into the matter vapor beam, which vaporize during the subsequent hardening of the first layer 15 and leave behind pores 17 in the process. The additives are preferably embodied as fullerenes. However, other additives can also be used instead of the fullerenes, which vaporize during hardening or stove-enameling of the first layer 15 and leave the pores 17 behind. In another embodiment, a slip material whose composition is adapted to the material composition of the component being protected is applied to the component being protected via daubing, dipping or spraying. Additives are incorporated in turn into this slip material, which vaporize during hardening of the first layer and leave behind pores.

Therefore, Applicants respectfully submit that the Examiner’s argument that the application methods of Schaeffer, Bruce, and Gibbs are “identical to that of the instant application”, and therefore, it is “expected” that the first layer has a porosity commensurate with the claims, is not accurate. Again, Applicants’ method for applying the first layer, to result in pores in the first layer, includes incorporating additives into a matter vapor beam or slip material which vaporize during the subsequent hardening of the first layer 15 to leave behind pores 17 in the process. As such, Applicants respectfully submit that the processes of Schaeffer, Bruce, and Gibbs do not result in a porosity of the first layer commensurate with the claims since the processes of Schaeffer, Bruce, and Gibbs

are not “identical” to the processes of the instant application. Therefore, Applicants respectfully submit that amended independent claims 20, 30, and 38 are allowable over Schaeffer, Bruce, and Gibbs.

Applicants have also added new dependent claims 40-45 to more-particularly claim that the pores are an evaporated additive to a material of the first layer; i.e., a matter vapor beam or a slip material. Applicants respectfully submit that neither Schaeffer, Bruce, nor Gibbs disclose these features of Applicants’ invention and that these claims are allowable for at least this additional reason.

Further in this Amendment, Applicants have amended withdrawn independent method claims 31 and 39 to also include this same “special technical feature” of amended independent apparatus claims 20, 30, and 38. As such, since this same special technical feature is a contribution over the prior art under PCT Rule 13.1, Applicants respectfully request that withdrawn method claims 31-37 and 39 be re-entered in the application. As the Examiner will recall, the Examiner required restriction between the apparatus claims and the method claims because the Examiner argued that the claims did not include a special technical feature since the prior art was argued to disclose a wear protection coating that included a double layer structure. As discussed above, Applicants respectfully submit that all of the claims now include the special technical feature where the first layer of the coating includes pores, and as such, all of the claims relate to a single general inventive concept under PCT Rule 13.1 and 13.2 and should be examined.

For at least the same reasons as discussed above, Applicants respectfully submit that amended independent method claims 31 and 39 are allowable over Schaeffer, Bruce, and Gibbs. Further, Applicants respectfully submit that amended dependent method claim 33, which claims that additives are incorporated into a material of the first layer and wherein the additives are vaporized thereby leaving behind the pores within the first layer, is allowable for at least this additional reason.

Further in this Amendment, Applicants have amended independent claims 20 and 30, and cancelled dependent claim 23, to obviate the Examiner's indefiniteness rejections.

Lastly, Applicants are refiling the Substitute Specification concurrently with the filing of this Amendment.

Applicants respectfully submit that the application is now in condition for allowance. If there are any questions regarding this Amendment or the application in general, a telephone call to the undersigned would be appreciated since this should expedite the prosecution of the application for all concerned.

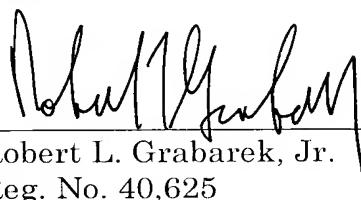
If necessary to effect a timely response, this paper should be considered as a petition for an Extension of Time sufficient to effect a timely response. Please charge any deficiency in fees or credit any overpayments to Deposit Account No. 05-1323 (Docket No. 011235.57497US).

Respectfully submitted,

CROWELL & MORING LLP

Dated: July 30, 2010

By



Robert L. Grabarek, Jr.

Reg. No. 40,625

Tel.: (949) 263-8400 (Pacific Coast)

DC12637936.1